

3135pt nat'l phases.ST25
SEQUENCE LISTING

<110> Leone, Arturo
Turco, Maria Caterina

<120> BAG3 nucleotide and protein sequences to be used in research, diagnostics and therapy for cell death-involving diseases

<130> 3135PT nat'l phases

<140> PCT/EP2002/014802

<141> 2002-12-30

<150> EP01830834.6

<151> 2001-12-28

<160> 18

<170> PatentIn version 3.1

<210> 1

<211> 2533

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (307)..(2034)

<223> Human BAG3 gene sequence

NCBI Pub Med Accession Number: XM_055575

Homo sapiens BCL2-associated athanogene 3 (BAG3)

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atttccagac acttccaccc ctctctggcc acgtcacccc cgcctttaat tcataaaggt 180
gcccggcgcc ggcttcccgg acacgtcggc ggccggagagg ggcccacggc ggcggcccgg 240
ccagagactc ggcgcccgga gccagcgccc cgcacccgcg cccagcggg cagaccccaa 300
cccagc atg agc gcc gcc acc cac tcg ccc atg atg cag gtg gcg tcc 348
Met Ser Ala Ala Thr His Ser Pro Met Met Gln Val Ala Ser
1 5 10
ggc aac ggt gac cgc gac cct ttg ccc ccc gga tgg gag atc aag atc 396
Gly Asn Gly Asp Arg Asp Pro Leu Pro Pro Gly Trp Glu Ile Lys Ile
15 20 25 30
gac ccg cag acc ggc tgg ccc ttc ttc gtg gac cac aac agc cgc acc 444
Asp Pro Gln Thr Gly Trp Pro Phe Phe Val Asp His Asn Ser Arg Thr
35 40 45
act acg tgg aac gac ccg cgc gtg ccc tct gag ggc ccc aag gag act 492
Thr Thr Trp Asn Asp Pro Arg Val Pro Ser Glu Gly Pro Lys Glu Thr
50 55 60
cca tcc tct gcc aat ggc cct tcc cgg gag ggc tct agg ctg ccg cct 540
Pro Ser Ser Ala Asn Gly Pro Ser Arg Glu Gly Ser Arg Leu Pro Pro
65 70 75
gct agg gaa ggc cac cct gtg tac ccc cag ctc cga cca ggc tac att 588
Ala Arg Glu Gly His Pro Val Tyr Pro Gln Leu Arg Pro Gly Tyr Ile
80 85 90

3135pt nat'l phases.ST25																
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tcc Ser	att Ile	ccg Pro	gtg Val 210	ata Ile	cac His	gag Glu	cag Gln	aac Asn 215	gtt Val	acc Thr	cgg Arg	cca Pro	gca Ala 220	gcc Ala	cag Gln	972
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ctc Leu	cac His	tcc Ser	ccc Pro 290	tcg Ser	ccc Pro	atc Ile	cgt Arg	gtg Val 295	cac His	acc Thr	gtg Val	gtc Val	gac Asp 300	agg Arg	cct Pro	1212
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3135pt nat'l phases.ST25

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gaa Glu 495	cag Gln	aaa Lys	gcc Ala	att Ile	gat Asp 500	gtc Val	cca Pro	ggg Gly	caa Gln	gtc Val 505	cag Gln	gtc Val	tat Tyr	gaa Glu	ctc Leu 510	1836
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3135pt nat'l phases.ST25

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<211> 575
<212> PRT
<213> Homo sapiens

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Gly Asp Arg Asp Pro Leu Pro Pro Gly Trp Glu Ile Lys Ile Asp Pro
20 25 30

Gln Thr Gly Trp Pro Phe Phe Val Asp His Asn Ser Arg Thr Thr Thr
35 40 45

Trp Asn Asp Pro Arg Val Pro Ser Glu Gly Pro Lys Glu Thr Pro Ser
50 55 60

Ser Ala Asn Gly Pro Ser Arg Glu Gly Ser Arg Leu Pro Pro Ala Arg
65 70 75 80

Glu Gly His Pro Val Tyr Pro Gln Leu Arg Pro Gly Tyr Ile Pro Ile
85 90 95

Pro Val Leu His Glu Gly Ala Glu Asn Arg Gln Val His Pro Phe His
100 105 110

Val Tyr Pro Gln Pro Gly Met Gln Arg Phe Arg Thr Glu Ala Ala Ala
115 120 125

Ala Ala Pro Gln Arg Ser Gln Ser Pro Leu Arg Gly Met Pro Glu Thr
130 135 140

Thr Gln Pro Asp Lys Gln Cys Gly Gln Val Ala Ala Ala Ala Ala Ala
145 150 155 160

Gln Pro Pro Ala Ser His Gly Pro Glu Arg Ser Gln Ser Pro Ala Ala
165 170 175

Ser Asp Cys Ser Ser Ser Ser Ser Ser Ala Ser Leu Pro Ser Ser Gly
180 185 190

Arg Ser Ser Leu Gly Ser His Gln Leu Pro Arg Gly Tyr Ile Ser Ile
195 200 205

Pro Val Ile His Glu Gln Asn Val Thr Arg Pro Ala Ala Gln Pro Ser
210 215 220

3135pt nat'l phases.ST25

Phe His Gln Ala Gln Lys Thr His Tyr Pro Ala Gln Gln Gly Glu Tyr
225 230 235 240

Gln Thr His Gln Pro Val Tyr His Lys Ile Gln Gly Asp Asp Trp Glu
245 250 255

Pro Arg Pro Leu Arg Ala Ala Ser Pro Phe Arg Ser Ser Val Gln Gly
260 265 270

Ala Ser Ser Arg Glu Gly Ser Pro Ala Arg Ser Ser Thr Pro Leu His
275 280 285

Ser Pro Ser Pro Ile Arg Val His Thr Val Val Asp Arg Pro Gln Gln
290 295 300

Pro Met Thr His Arg Glu Thr Ala Pro Val Ser Gln Pro Glu Asn Lys
305 310 315 320

Pro Glu Ser Lys Pro Gly Pro Val Gly Pro Glu Leu Pro Pro Gly His
325 330 335

Ile Pro Ile Gln Val Ile Arg Lys Glu Val Asp Ser Lys Pro Val Ser
340 345 350

Gln Lys Pro Pro Pro Pro Ser Glu Lys Val Glu Val Lys Val Pro Pro
355 360 365

Ala Pro Val Pro Cys Pro Pro Pro Ser Pro Gly Pro Ser Ala Val Pro
370 375 380

Ser Ser Pro Lys Ser Val Ala Thr Glu Glu Arg Ala Ala Pro Ser Thr
385 390 395 400

Ala Pro Ala Glu Ala Thr Pro Pro Lys Pro Gly Glu Ala Glu Ala Pro
405 410 415

Pro Lys His Pro Gly Val Leu Lys Val Glu Ala Ile Leu Glu Lys Val
420 425 430

Gln Gly Leu Glu Gln Ala Val Asp Asn Phe Glu Gly Lys Lys Thr Asp
435 440 445

Lys Lys Tyr Leu Met Ile Glu Glu Tyr Leu Thr Lys Glu Leu Leu Ala
450 455 460

Leu Asp Ser Val Asp Pro Glu Gly Arg Ala Asp Val Arg Gln Ala Arg
465 470 475 480

Arg Asp Gly Val Arg Lys Val Gln Thr Ile Leu Glu Lys Leu Glu Gln
485 490 495

3135pt nat'l phases.ST25

Lys Ala Ile Asp Val Pro Gly Gln Val Gln Val Tyr Glu Leu Gln Pro
500 505 510

Ser Asn Leu Glu Ala Asp Gln Pro Leu Gln Ala Ile Met Glu Met Gly
515 520 525

Ala Val Ala Ala Asp Lys Gly Lys Lys Asn Ala Gly Asn Ala Glu Asp
530 535 540

Pro His Thr Glu Thr Gln Gln Pro Glu Ala Thr Ala Ala Ala Thr Ser
545 550 555 560

Asn Pro Ser Ser Met Thr Asp Thr Pro Gly Asn Pro Ala Ala Pro
565 570 575

<210> 3
<211> 360
<212> DNA
<213> Homo sapiens

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<223> Specific sequence comprised inside BAG3 gene sequence

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atttccagac acttccaccc ctctctggcc acgtcacccc cgcctttaat tcataaaggt 180
gcccggcgcc ggcttcccgg acacgtcggc ggcggagagg ggcccacggc ggcggccccg 240
ccagagactc ggcgcccgga gccagcgccc cgcacccgcg cccagcggg cagaccccaa 300
ccagcatga gcgccgccac cactcgccc atgatgcagg tggcgtccgg caacggtgac 360

<210> 4
<211> 35
<212> PRT
<213> Homo sapiens

<220>
<221> PEPTIDE
<222> (1)..(35)
<223> Specific sequence comprised inside BAG3 protein

<400> 4
Met Ser Ala Ala Thr His Ser Pro Met Met Gln Val Ala Ser Gly Asn
1 5 10 15

Gly Asp Arg Asp Pro Leu Pro Pro Gly Trp Glu Ile Lys Ile Asp Pro
20 25 30

Gln Thr Gly
35

3135pt nat'l phases.ST25

<210> 5
 <211> 1105
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)..(1105)
 <223> Specific sequence comprised inside BAG3 gene sequence

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attcccattc ctgtgctcca tgaaggcgct gagaaccggc aggtgcaccc tttccatgtc    180
tatccccagc ctgggatgca gcgattccga actgaggcgg cagcagcggc tcctcagagg    240
tcccagtcac ctctgcgggg catgccagaa accactcagc cagataaaca gtgtggacag    300
gtggcagcgg cggcggcagc ccagccccc gcctcccacg gacctgagcg gtcccagtct    360
ccagctgcct ctgactgctc atcctcatcc tcctcggcca gcctgccttc ctccggcagg    420
agcagcctgg gcagtcacca gctcccgcgg ggggtacatct ccattccggt gatacacgag    480
cagaacgtta cccggccagc agcccagccc tccttccacc aagcccagaa gacgcactac    540
ccagcgcagc aggggggagta ccagaccac cagcctgtgt accacaagat ccaggggggat    600
gactgggagc cccggcccct gcgggcggca tccccgttca ggtcatctgt ccaggggtgca    660
tcgagccggg agggctcacc agccaggagc agcacgccac tccactcccc ctgccccatc    720
cgtgtgcaca ccgtggtcga caggcctcag cagcccatga cccatcgaga aactgcacct    780
gtttcccagc ctgaaaacaa accagaaagt aagccaggcc cagttggacc agaactccct    840
cctggacaca tccaattca agtgatccgc aaagagggtg attctaaacc tgtttcccag    900
aagccccac ctccctctga gaaggtagag gtgaaagttc cccctgctcc agttccttgt    960
cctcctccca gccctggccc ttctgctgtc ccctcttccc ccaagagtgt ggctacagaa   1020
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 <212> PRT
 <213> Homo sapiens

<220>
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 <222> (1)..(395)
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 1 5 10 15

3135pt nat'l phases.ST25

Ala Asn Gly Pro Ser Arg Glu Gly Ser Arg Leu Pro Pro Ala Arg Glu
20 25 30

Gly His Pro Val Tyr Pro Gln Leu Arg Pro Gly Tyr Ile Pro Ile Pro
35 40 45

Val Leu His Glu Gly Ala Glu Asn Arg Gln Val His Pro Phe His Val
50 55 60

Tyr Pro Gln Pro Gly Met Gln Arg Phe Arg Thr Glu Ala Ala Ala Ala
65 70 75 80

Ala Pro Gln Arg Ser Gln Ser Pro Leu Arg Gly Met Pro Glu Thr Thr
85 90 95

Gln Pro Asp Lys Gln Cys Gly Gln Val Ala Ala Ala Ala Ala Ala Gln
100 105 110

Pro Pro Ala Ser His Gly Pro Glu Arg Ser Gln Ser Pro Ala Ala Ser
115 120 125

Asp Cys Ser Ser Ser Ser Ser Ser Ala Ser Leu Pro Ser Ser Gly Arg
130 135 140

Ser Ser Leu Gly Ser His Gln Leu Pro Arg Gly Tyr Ile Ser Ile Pro
145 150 155 160

Val Ile His Glu Gln Asn Val Thr Arg Pro Ala Ala Gln Pro Ser Phe
165 170 175

His Gln Ala Gln Lys Thr His Tyr Pro Ala Gln Gln Gly Glu Tyr Gln
180 185 190

Thr His Gln Pro Val Tyr His Lys Ile Gln Gly Asp Asp Trp Glu Pro
195 200 205

Arg Pro Leu Arg Ala Ala Ser Pro Phe Arg Ser Ser Val Gln Gly Ala
210 215 220

Ser Ser Arg Glu Gly Ser Pro Ala Arg Ser Ser Thr Pro Leu His Ser
225 230 235 240

Pro Ser Pro Ile Arg Val His Thr Val Val Asp Arg Pro Gln Gln Pro
245 250 255

Met Thr His Arg Glu Thr Ala Pro Val Ser Gln Pro Glu Asn Lys Pro
260 265 270

Glu Ser Lys Pro Gly Pro Val Gly Pro Glu Leu Pro Pro Gly His Ile
275 280 285

3135pt nat'l phases.ST25

Pro Ile Gln Val Ile Arg Lys Glu Val Asp Ser Lys Pro Val Ser Gln
290 295 300

Lys Pro Pro Pro Pro Ser Glu Lys Val Glu Val Lys Val Pro Pro Ala
305 310 315 320

Pro Val Pro Cys Pro Pro Pro Ser Pro Gly Pro Ser Ala Val Pro Ser
325 330 335

Ser Pro Lys Ser Val Ala Thr Glu Glu Arg Ala Ala Pro Ser Thr Ala
340 345 350

Pro Ala Glu Ala Thr Pro Pro Lys Pro Gly Glu Ala Glu Ala Pro Pro
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Lys His Pro Gly Val Leu Lys Val Glu Ala Ile Leu Glu Lys Val Gln
370 375 380

Gly Leu Glu Gln Ala Val Asp Asn Phe Glu Gly
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<210> 7
<211> 733
<212> DNA
<213> Homo sapiens

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<223> Specific sequence comprised inside BAG3 gene sequence

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gctggaaatg cagaagatcc ccacacagaa acccagcagc cagaagccac agcagcagcg 180
acttcaaacc ccagcagcat gacagacacc cctggtaacc cagcagcacc gtagcctctg 240
ccctgtaaaa atcagactcg gaaccgatgt gtgcttttagg gaattttaag ttgcatgcat 300
ttcagagact ttaagtcagt tggtttttat tagctgcttg gtatgcagta acttgggtgg 360
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3135pt nat'l phases.ST25

<210> 8
 <211> 67
 <212> PRT
 <213> Homo sapiens

<220>
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 <222> (1)..(67)
 <223> Specific sequence comprised inside BAG3 protein

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Glu Leu Gln Pro Ser Asn Leu Glu Ala Asp Gln Pro Leu Gln Ala Ile
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Met Glu Met Gly Ala Val Ala Ala Asp Lys Gly Lys Lys Asn Ala Gly
 20 25 30

Asn Ala Glu Asp Pro His Thr Glu Thr Gln Gln Pro Glu Ala Thr Ala
 35 40 45

Ala Ala Thr Ser Asn Pro Ser Ser Met Thr Asp Thr Pro Gly Asn Pro
 50 55 60

Ala Ala Pro
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<210> 9
 <211> 25
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)..(25)
 <223> BAG3-based specific antisense oligonucleotide

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25

<210> 10
 <211> 22
 <212> DNA
 <213> Homo sapiens

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 <223> BAG3-based specific antisense oligonucleotide

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<210> 11
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 <213> Homo sapiens

3135pt nat'l phases.ST25

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 <222> (1)..(22)
 <223> BAG3-based specific antisense oligonucleotide

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 <212> DNA
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 <223> BAG3-based specific control nonsense oligonucleotide

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<210> 13
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 <223> BAG3-based specific control nonsense oligonucleotide

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 <222> (1)..(16)
 <223> BAG3-protein specific epitope

<400> 15

3135pt nat'l phases.ST25

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<210> 16
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<212> PRT
<213> Homo sapiens

<220>
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<222> (1)..(15)
<223> BAG3-protein specific epitope

<400> 16

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1 5 10 15

<210> 17
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<212> PRT
<213> Homo sapiens

<220>
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<222> (1)..(15)
<223> BAG3-protein specific epitope

<400> 17

Asp Lys Gly Lys Lys Asn Ala Gly Asn Ala Glu Asp Pro His Thr
1 5 10 15

<210> 18
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<212> PRT
<213> Homo sapiens

<220>
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<222> (1)..(15)
<223> BAG3-protein specific epitope

<400> 18

Asn Pro Ser Ser Met Thr Asp Thr Pro Gly Asn Pro Ala Ala Pro
1 5 10 15